Safer Chemical Task Force
January 24, 2007

Identifying a Safer Alternative to Decabromodiphenyl Ether

"It is the intent of the Legislature to reduce the risk of the 'deca' mixture of polybrominated diphenyl ethers by implementing risk management measures or by prohibiting the sale of products containing more than 1% of the "deca" mixture beginning January 1, 2008 *if a safer, nationally available alternative is identified*." - PL 2003, c. 629, §2, eff. July 30, 2004

Evaluation criteria
It is reasonably clear from context that "safer" means an alternative that, compared to decaBDE, has not been shown to pose the same or greater risks to human health or the environment.

Our analysis of safety was guided by the following observations/rules of thumb:

- Alternatives that allow flammability standards to be met without using a chemical flame retardant are presumed to be safer.
- Alternatives that replace decaBDE with other brominated chemicals cannot be fairly characterized as safer because they share the characteristics that make decaBDE problematic.
- Alternatives that have been classified as a "PBT"—a chemical that is persistent, bioaccumulative and toxic—are not safer than decaBDE.
- The use of persistent or bioaccumulating flame retardant chemicals should be avoided independent of their toxicity.
- Chemical flame retardants likely to be released from the host material to the indoor environment during product use should be avoided.
- The use of chemicals with carcinogenic, mutagenic or reproductive toxic effects should be avoided.

Challenges
- Lack of comprehensive information on all applications in which decaBDE is used, and the extent to which it is used in those applications compared to the alternatives.
- In many cases, the manufacturer of a final product may not know if the component parts contain decaBDE; in other cases, the identity of the specific flame retardant used in the product is proprietary.
- Available information on the environmental fate and toxicology of non-brominated flame retardants is limited. BFRs have been subjected to far more scientific scrutiny than other flame retardants, presumably due to their ubiquity in the environment and propensity to bioaccumulate.

Issue
- Is it sufficient, as a basis for Legislative action, to identify a single, readily available alternative that can be fairly characterized as safer?